Visualization of Product Models: Experiences and Expectations

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Agenda

- Historical perspective
- Lessons learned
- What's next?
- How we can get there

Evolution of Visualization

- Began with engineering drawings and blue-lines
- On-line systems allowed viewing of drawings (2-D) and associated information
- 3-D modeling leads to 3-D visualization

Lessons Learned

- Visualization is more than just pretty pictures
- The Format of product information is key i.e. long-term dangers associated with proprietary formats
- Visualization must be tied to PDM system
- Web-enabled visualization is key
- Don't let one domain dominate the discussion

Today's Situation

- Powerful object oriented computing environments have enabled 3-D product visualization
- Visualization through various native MCAD formats
- Single, easy-to-use interface allows wider audience of users to access information previously unavailable

Where do we go next?

- There is more to a product than its geometry
- Visualization of entire product models
  - electronics
  - software
  - system engineering
- Problems associated with proprietary formats create discontinuities.
- Standardization enables communication

Standardization enables communication

- This is not about "connecting tools" but rather "connection information"
- Need to focus on infrastructure development
- Visualization is just one part of a much larger picture
- Data services provide validation, translation, storage and visualization

What we can do next

- Be careful of "visualization trap" - i.e. if it looks good it must be okay
- Organizations need to take "ownership" of their data
- Partnerships must be developed with your tool vendors
- Build inter-disciplinary connections in your organization